



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,894	03/21/2001	Hideaki Miyake	50023-135	1179
7590	11/08/2004		EXAMINER	
McDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096			FOWLKES, ANDRE R	
			ART UNIT	PAPER NUMBER
			2122	

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/812,894	MIYAKE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andre R. Fowlkes	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 July 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-25 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 04 June 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892) \*  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

1. Claims 1-25 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Beatty et al., (Beatty), U.S. Patent No. 5,913,052.

As per claim 1, Beatty discloses a **debugging supporting apparatus** (col. 1:8-13, "The present invention is directed, in general, to computing systems and, more specifically, to a system and method for simulating (and debugging) the software that is to control a digital signal processor ("DSP") and a general purpose computer employing either the system or the method for simulating"), **provided with**:

- **an application to which is linked an OS simulator to simulate a specific OS on a general-purpose OS** (col. 2:34-39, "the present invention provides a system and method, operable on a general purpose computer, for debugging software (i.e. an

application) that is to control a DSP (i.e. an OS) ... The present invention is employable with either a real DSP or an emulated DSP (i.e. an OS simulator)."),

**- storage means for storing OS control information controlled by said application under the control of said OS simulator** (col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) are important in determining the source of any error in the operation of the DSP"),

**- an OS debugger to refer to or change said OS control information**, (col. 2:46-53, "(an OS debugger to) emulate the operation of the particular DSP (i.e. simulated OS) to cause the particular DSP to change states over time", and col. 2:60-62, "the fields corresponding to register (or multiple registers) of the DSP are ... user-configurable"), **said apparatus comprising:**

**- a common file shared between said application and said OS debugger and storing common control information including the same data as the item constituting said OS control information** (col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file)", and 3:29-33, "the system further comprises source software display circuitry that displays a source code representation (i.e. common control information) of the DSP software (i.e. application) in a further window on the display of the ... computer to allow the user to debug the software"),

**- writing means for writing on said common file specific item of said OS control information stored in said storage means as common control information**

(col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)" ),

**- reading means for reading out said common control information stored in said common file** (col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)" ), and col. 3:10-13, "the general purpose computer monitors the states allowing the architectural display circuitry to update at least one field to reflect (i.e. read out) changes in states").

As per claim 2, the rejection of claim 1 is incorporated and further, Beatty discloses that **said writing means is provided on the side of said application and writes on said common file changes in said specific item as common control information in compliance with instructions by said OS simulator** (col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)" ), **and wherein said reading means is provided on the side of said OS debugger and reads out the common control information stored in said common file in compliance with instructions by said OS debugger** (col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)" ).

As per claim 3, the rejection of claim 2 is incorporated and further, Beatty discloses an **application communication means, in case said writing means writes**

**on said common file changes in said specific item as common control information,** (col. 1:62-64, “An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)”), **sends directions to read out said common control information to said OS debugger from said application** (col. 1:62-64, “An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)”), **and OS debugger communication means for, on receiving said directions, issuing to said reading means instructions to read out said common control information** (col. 1:62-64, “An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)”).

As per claim 4, the rejection of claim 3 is incorporated and further, Beatty discloses that **said application communication means sends to said OS debugger directions to reads out said common control information and, at the same time, stops execution of said application** (col. 1:62-64, “An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)”, and col. 1:38-41, “DSP’s now include … real-time control”, and col. 3:26-27, “introduction (i.e. changes) of DSP hardware and software can coincide”), **and wherein said OS debugger communication means sends back to said application a direction to free said stopped application after said reading means reads out said common control information** (col. 1:62-64, “An analysis of signals entering and

exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)", and col. 1:38-41, "DSP's now include ... real-time control").

As per claim 5, the rejection of claim 2 is incorporated and further, Beatty discloses that **said reading means reads out said common control information from said common file at any time** (col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)", and col. 1:38-41, "DSP's now include ... real-time control").

As per claim 6, the rejection of claim 2 is incorporated and further, Beatty discloses that **said reading means reads out common control information from said common file in a specific cycle** (col. 1:62-64, "An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)", and col. 1:38-41, "DSP's now include ... real-time control").

As per claim 7, the rejection of claim 1 is incorporated and further, Beatty discloses that **said specific OS is a real-time OS** (col. 1:38-41, "DSP's (i.e. OS's) now include ... real-time control").

As per claim 8, the rejection of claim 1 is incorporated and further, Beatty discloses that **said application control is control of task execution by said**

**application** (col. 1:62-64, “An analysis of signals entering and exiting (to control the application)).

As per claim 9, the rejection of claim 1 is incorporated and further, Beatty discloses that **the common control information to be stored in said common file is concurrently said OS control information** (col. 1:62-64, “An analysis of signals entering and exiting the DSP (i.e. OS control information) (are stored in a file and can be read and/or distributed)”, and col. 1:38-41, “DSP’s now include ... real-time control”).

As per claims 10-15, this is another apparatus version of the claimed apparatus discussed above, in claims 2 and 5-9, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see Beatty’s system and method for debugging digital signal processor software with an architectural view (col. 2:33-4:4).

As per claims 16-19, this is a method version of the claimed apparatus discussed above, in claims 1, 3, 4 and 9, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see Beatty’s system and method for debugging digital signal processor software with an architectural view (col. 2:33-4:4).

As per claim 20, this is a method version of the claimed apparatus discussed above, in claim 1, wherein all claimed limitations have also been addressed and/or cited

as set forth above. For example, see Beatty's system and method for debugging digital signal processor software with an architectural view (col. 2:33-4:4).

As per claims 21-24, this is a computer readable medium version of the claimed apparatus discussed above, in claims 1, 2, 4 and 9, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see Beatty's system and method for debugging digital signal processor software with an architectural view (col. 2:33-4:4).

As per claim 25, this is a computer readable medium version of the claimed apparatus discussed above, in claim 1, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see Beatty's system and method for debugging digital signal processor software with an architectural view (col. 2:33-4:4).

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre R. Fowlkes whose telephone number is (571) 272-3697. The examiner can normally be reached on Monday - Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TUAN DAM  
SUPERVISORY PATENT EXAMINER

ARF